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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/783,131 | 02/20/2004 | Joseph S. Stam | AUTO 211 US1 | 7106 |
| 28167 | 7590 | 08/30/2006 | EXAMINER | |
| BRIAN J. REES GENTEX CORPORATION 600 NORTH CENTENNIAL STREET ZEELAND, MI 49464 | | | ZANELLI, MICHAEL J | |
| | | ART UNIT | PAPER NUMBER | |
| | | | 3661 | |

DATE MAILED: 08/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|------------------------------|------------------------|---------------------|--|
| | 10/783,131 | STAM ET AL. | |
| | Examiner | Art Unit | |
| | Michael J. Zanelli | 3661 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 July 2006.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-73 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-59, 63 and 68 is/are rejected.

7) Claim(s) 60-62, 64-67 and 69-73 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

1. This is responsive to the communication filed 7/13/06. Claims 1-73 are pending.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-39 and 42-57 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - A. As per claims 1, 14, 28, 36 and 42, the claims include the limitation “wherein at least one vehicle equipment control signal is generated as a function of at least a portion of at least one image”; however, the claims lack sufficient structure for producing the vehicle equipment control signal for each of the possible components listed in the group (claims 1, 14 and 28) whereas claims 36 and 42 do not recite any structures capable of producing the vehicle equipment control signal. With regards to claims 1, 14 and 28, the claims are unclear whether applicant intends the claims to be limited only to a control output component. For the purpose of further examination on the merits, the above wherein clause is being interpreted as an intended use of the image information.
 - B. All claims depending from a rejected base claim are also rejected as containing the same deficiencies.
5. Claims 28 and 29 stand rejected under 35 U.S.C. 102(b) as being anticipated by Stam et al.
 - A. As per claims 28 and 29, Stam discloses an imager comprising an image sensor with at least control outputs and analog to digital converter on a common chip (Figure 1;

column 3, lines 35-56).

6. Claims 14, 16-18 and 20-23 stand rejected under 35 U.S.C. 102(e) as being anticipated by Jackson, Jr.

A. As per claim 14, Jackson discloses an automatic vehicle control equipment system which comprises an image sensor (col. 3, lines 18-23) and at least one control output (col. 3, lines 37-40).

B. As per claims 16-18 and 20-23, as above wherein the image sensor is used to automatically control a vehicle's exterior lights (col. 2, lines 8-9) and further includes a processor, filtering logic and an analog to digital converter, (col. 3, lines 24-47). The processor also determines ambient light from the sensor signals (col. lines 16-18).

7. Claims 28-31 stand rejected under 35 U.S.C. 102(e) as being anticipated by Sarwari (2003/0210334).

A. As per claims 28-31, Sarwari discloses an imager (Figs. 1A-B) comprising an image sensor (216) with at least one control output and processing circuitry on a common substrate (200) [0023]. The imager may also include filtering and an array of pixels configured as required by design [0032].

8. Claims 1-13, 15, 19, 24-29, 31-33, 36-49, 54-59 and 68 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson in view of Shimizu and Schofield et al.

A. As per claims 1, 28, 36, 40, 42 and 58, Jackson discloses an automatic vehicle control equipment system as noted above whereby image information is used for controlling vehicle equipment (i.e., headlights). The claimed invention differs in that the system may include an enhanced transceiver or incorporation of the image sensor and

other components on a common silicon wafer or incorporation of a low voltage differential signal transceiver and memory on a silicon wafer.

B. Shimizu discloses an image sensor unit (Figure 4) comprising an imager (101) with at least control outputs and low voltage differential signal (LVDS) transceiver (107) as well as a buffer memory (112). As shown in Figure 4, the components are at least interconnected by a wire. Shimizu further discloses that the components may be located on a common silicon wafer (column 6, lines 46-55). The LVDS permits high transmission rates with reduced electromagnetic interference (column 6, line 56 to column 7, line 40). In addition, Shimizu discloses connecting the output of the imager to a processor via the LVDS transceiver (Figure 5). Shimizu discloses that the imaging sensor unit provides a small size, low cost means of providing imaging data and is less susceptible to noise and consumes less power (col. 2, lines 61-67). One of ordinary skill in the art would have found all these characteristics beneficial in control systems which utilize image information to carry out control processes, such as the vehicle-based systems of the type exemplified by Jackson (*supra*) and Schofield et al. (Abstract; Figure 3; column 11, 58-64).

C. As per claims 2-13, 15, 19, 24-27, 29, 37, 43-45, 48, 49, 54-57, 59 and 68, as above wherein Shimizu further discloses locating one or more components on a common silicon wafer and providing additional support circuitry such as analog to digital converters, filters and memory devices (column 6, lines 6-17, 43-58).

D. As per claims 31-33 and 38-39, as above whereby the size of the image array and/or associated memory capacities would have been dependent upon the particular

devices used in constructing the imaging system.

E. As per claim 41, as above wherein Shimizu discloses providing a plurality of image sensors (column 9, lines 11-14).

F. As per claims 46, 47, 50-53 and 63, as noted above whereby both Jackson and Schofield disclose various vehicle equipment control systems which use image information as well as additional information provided by other sensors.

9. Claims 60-62, 64-67 and 69-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 34 and 35 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. **REMARKS**

A. With regards to the rejection under 112/2, simply using the transitional phrase "comprising" does not permit the inclusion of unrecited structures required to perform functions explicitly set forth in the claims. If applicant wishes to merely incorporate structures "capable" of performing the function (i.e., [automatic] vehicle equipment control) without explicit recitation of a particular structure, then the examiner suggests using 112/6 paragraph format (i.e., "means for"). At most the claimed structures provide image signals which may be used by other vehicle equipment control devices to control

equipment (see as exemplary Fig. 4). Applicant has not cited where in the specification the imager “in and of itself” is capable of producing a vehicle equipment control signal (i.e., without additional circuitry).

B. With regards to applicant’s remarks concerning the prior art rejections, as noted numerous times in previous Office actions applicant’s arguments amount to general allegations that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them over the cited references (37 CFR 1.111(b)). The rejections specifically point to portions of the prior art which is deemed to disclose and/or teach the claimed subject matter. However, applicant has not shown how these specific citations differ from the claimed subject matter.

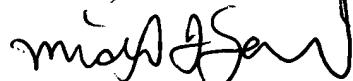
13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Zanelli whose telephone number is (571) 272-6969. The examiner can normally be reached on Monday-Thursday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Zanelli
Primary Examiner
Art Unit 3661

August 25, 2006